

WELL SUMMARY

page 1 of 3Location ID: PL-3-453 Field Representative(s): P. Egan, J. KaszubaNorthing: 225366.27 Easting: 400579.73Date Started: October 24, 1988 Date Completed: November 9, 1988Drilling Method: Mud/Air-Foam Rotary Drilling Contractor: LarjonDriller: J. Gower/T. CrawfordTotal Depth Borehole: 497' Total Depth Well Casing: 469.1Total Depth Surface Casing: 87'Diameter Well Casing: 4" Diameter Surface Casing: 10"Length of Bottom Blank: 5.3'Type of Screen: extra strength 0.02 slotScreen Interval: 453.4 to 463.8Water First Detected: 457' Water Level Open Borehole: 425.5'
(from grade)

Water Level Cased Borehole: _____

Quik-Foam Use: 4 1/2 gal. Quik-Foam, 3 1/2 gal. E-Z Mud.

Estimated Water Use: 4802 gallons recirculated during drilling (includes formation water blown from borehole).

Well Casing:

4in x 3ft SCD 40 PVC:		stock SS centralizers:	0
4in x 5ft SCD 40 PVC:		custom SS centralizers:	1
4in x 10ft SCD 40 PVC:		4"x2' SS locking riser:	1
4in x 20ft SCD 40 PVC:		4" SS locking cap:	1
Total SCD 40 PVC pipe:	0 ft	4" SS female cap:	1
4in x 3ft SCD 5 SS pipe:	0		
4in x 5ft SCD 5 SS pipe:	1	4in x 5ft SCD 10 SS pipe:	0
4in x 10ft SCD 5 SS pipe:	0	4in x 10ft SCD 10 SS pipe:	1
4in x 20ft SCD 5 SS pipe:	19	4in x 20ft SCD 10 SS pipe:	3
Total SCD 5 SS pipe:	385 ft	Total SCD 10 SS pipe:	70 ft

Well Completion:

100# bags 16/40 sand: 7 bags
100# bags 10/20 sand: 0 bags
100# bags 8/14 sand: 0 bags
100# bags 8/20 sand: 28 bags

94# bags cement: 188 bags

5 gal. buckets bentonite: 2 buckets

50# bentonite powder: 8 bags

Benseal: 3/4 bags

Surface Casing:

94# bags cement: 65 bags

50# bags bentonite powder: 3 bags

Pertinent Field Notes:

10/24/88 Steam clean Frank's rig and tools. Mobilize to PL-3 well pad. Spud pilot hole with 12 1/4" bit. Drill 0'-40' with mud rotary. 1000 gal. water used for mud drilling. - Egan

10/25/88 Finish pilot hole to 89'. 700 gal. water used. - Egan

10/26/88 Ream pilot hole to 16", 0'-85'. 450 gal. water used. - Egan

10/27/88 Install and grout 10' x 87' steel surface casing. Steam clean CP rig. Used 65 bags cement and 3 bags of gel. - Egan

10/28/88 Remove Frank's rig and mobilize CP rig. Perform some repairs on CP rig. Drill 87'-197' with air foam, 9 7/8" bit. Drilling is fast (10-15 min per 20' joint). Monitor air on main compressor. 450 gal. water used. - Egan

10/29/88 Drill with air foam from 197'-457'. Monitor air from both main and axillary compressors. Ran out of water during drilling. 3150 gal. H₂O used. While blowing hole, driller commented about a small trickle of water he couldn't get rid of and felt we might be in water. Shut air off for 20 minutes. Blow hole. No sign of any significant amount of water. Will check water level tomorrow. - Egan

- 10/30/88 Larjon filled water truck at Jornada water supply on the way to NASA. Three samples taken from water truck: 881030916, 881030917, and 881030919. Check for water in borehole. Probe measures 32' of head in borehole. Check for sloughing. Have only 5' of slough. Blow hole and observe fluids. Site hydrogeologist and driller agree that fluids are from aquifer and not relict drilling fluids. Drill 457'-497'. More water is blown from hole with each joint connection. Stop at 497'. Let hole recover for 30 minutes. Blow hole. Large volume of water is discharged. Stop at 497' (T.D.). Trip out. Check static tomorrow. - Egan
- 10/31/88 Static water level = 425.5' below grade. Southwest Surveys (D. Pearson) runs standard suite of geophysical logs plus drift. Attempt to core alluvium, but core barrel (6-inch Dennison) not operating properly. Abandon coring. Demobilize drilling equipment. Steam clean and mobilize to complete the well. Mobilize 2000 gal. water truck to Jornada for water to pump plug because access to NASA water supply wells currently restricted. - Kaszuba
- 11/01/88 Install filler sand and bottom bentonite plug. Bentonite pellets partially bridged at water table. Blow bridge clear with filtered air from CP rig through tremie pipe. Install casing and filter pack around screen. - Kaszuba
- 11/02/88 Complete filter pack installation and pump upper plug. Upper plug a Benseal/EZ-Mud slurry. Allow plug to set overnight. - Kaszuba
- 11/03/88 Sound plug, add filler sand to above static. Install 1 of load grout. Bail following grout emplacement, no grout in well. - Kaszuba
- 11/04/88 Sound first grout load at 246'. Install second load of grout. - Kaszuba
- 11/07/88 Develop well by bailing 3 times, then pumping ~1700 gallons. Backwash well 6 times (with the check valve out of the submersible pump) during pumping to surge gravel pack. Lockheed sampled well after development. - Cooper
- 11/09/88 Pour pad and set brass cap. - Kaszuba